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PATAGONIA AND TIERRA DEL FUEGO

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Until very recently, maps of South America have been published in which Patagonia appears with a color different from that of Argentine, as if it were an independent country. This is in accordance with the general idea of the world, that that region of South America is populated only by Indians and that it is the theatre merely of great desolation and misery.

From the famous voyages of Magellan, and of Bongainville, Drake, Sarmiento and many others, all of them surrounded by the most extraordinary and romantic adventures, to those of Captains King and Fitz-Roy on board the *Adventure* and *Beagle* from 1826 to 1830, very little information could be had regarding that region. The navigators referred to its desolate shores and to the enormous disappointments, troubles and penuries they had suffered. The Indians found were considered giants and undoubtedly this fantasy exaggerated their characteristics.

In fact, the name of Patagonia cannot be referred, as it is believed, to the great size of the legs or feet of the men found. These on the contrary had comparatively small feet; they were corpulent, but had very short legs; they were therefore giants when on horse back or sitting in a boat, but their height rarely exceeded 6 feet.

Perhaps the atmospheric refraction that gives extraordinary effects in all the Patagonian coast, raising a great deal the height of the objects, made the natives look big when the travelers could not approach them nearer than 200 or 300 yards. Possibly this was the origin of the legend.

I am saying that they had these measurements, because the traveler of today will hardly find camps of Tehuelches or

Genaken Indians as the pure blood natives are now very scarce. I think that my friend Charles W. Furlong of Boston, a studious explorer who a few years ago went to visit them, has not found more than fifty real Teheulches together.

Those Indians were never numerous nor were they fighters and at present they are disappearing very rapidly. Other types of human races, now totally extinguished, have been evidenced in the investigations of the geologists, for whose studies like those of the zoölogists and botanists, Patagonia offers a great field of action.

In the description of Fitz-Roy's journey, whose principal object was to make the hydrographical chart of the South Atlantic, there are found interesting observations about the different opinions and controversies regarding the natives of that region. As in that description he refers to other earlier navigators of those shores, the interest of its reading increases with the relation of many adventures and extraordinary enterprises often full of terror, that showed the strength and spirit of those brave explorers.

The imposing solitude of the region, the enormous distance and long absence from home, predisposed them unfavourably, and the same Fitz-Roy, and the eminent naturalist, Darwin, who accompanied him, returned from their voyage with a very poor impression of those lands. Two things that the sailors of those times ardently wanted to find in their anchoring grounds were missing, fresh water and wood.

Darwin went up the Santa Cruz River, but he did not reach the lakes. At his return he said Patagonia was a sterile and good-for-nothing land.

Somebody has said that this mistake of the immortal author of the *Origin of Species* saved for Argentinians that part of the continent, not awakening England in the desire of possessing it. The Monroe Doctrine was then in its infancy; and Argentina was fighting with the natural difficulties of the organization of the country.

In the year 1880, Argentina began to make effective its rights upon the Patagonian shores and lands, installing authorities in some places; and from then on explorations

through the interior were initiated by officers of our navy and army, and by geographers from several institutes.

To determine the boundary between Chile and Argentina a treaty was signed in 1881, agreeing that down to parallel 52 degrees south the Andean Cordillera should separate the two Republics. A great difficulty came in the determination of that line. Argentina maintained that it was the line of the summit in the same Cordillera, while the Chileans contended that it should be the continental water shed, separating the streams flowing from the Cordillera toward the Atlantic at the east, and toward the Pacific at the west. The lakes on the region increased the difficulty; some of them empty into the monotonous rivers of the Atlantic, others reach the Pacific in impetuous torrents that cut through the total mass of the Cordillera.

This phenomenon of a dividing line separating waters which flow into opposite oceans, and which partly rise in plains and glens hardly higher than the level of the sea, and which overcome such formidable obstacles as the Andean Cordillera, piercing its crystalline axis and the enormous mass of rocks which have accumulated upon this axis, constitutes, as one of the most eminent Argentine geographers, Mr. Francis Moreno says, "a fact which is unique in the world."

The dispute was submitted to the arbitral decision of the King of England. A commission of geographical officers was assigned, and in accordance with its report the arbiter gave to each nation what in his judgement rightly belonged to it. The decision was accepted with due respect, initiating between both countries an epoch of true friendship that will always last. In the same way Argentina had respected previously the arbitral decision that was against her in the Misiones dispute with Brazil, awarded by President Grover Cleveland of the United States.

The southernmost nations of the American continent have taken into practice this pacific method of arranging their disputes, that is yet only an idea dreamt by prominent men of the greatest nations of the world.

All danger of international complications having disappeared the first step of the government was to exchange contracts for war material amounting to some millions of dollars, into contracts for railway material for immediate use in the construction of lines between the Atlantic and the Andes.

Let me say, before examining the actual condition of that land, that the name "Patagonia" is not a political denomination of a certain section of Argentine soil. Its northern limit has always been considered to extend from Rio Negro to the Strait of Magellans, not including the pampa territory more immediate to Buenos Aires, which is much more populated and richer, and in such an actual prosperous condition that as soon as the census lately ordered by congressional law is finished, it will be incorporated without any doubt in the number of the Argentine provinces.

Patagonia, properly speaking, is divided into four national territories, Rio Negro, Neuquen, Chubut and Santa Cruz, each one with a governor and other authorities appointed by the national executive power. Its total area is 323,000 square miles, which is about the same in size as all the States of New England together with the states of New York, Pennsylvania, Ohio, both Virginias and North Carolina.

A slight description of the territory will give you an idea of its nature and climate.

The valleys irrigated by the capacious rivers Negro and Colorado, navigable in their larger part, are made fertile by the periodic flows of these fluvial arteries; but as the flows sometimes become so great that they constitute a danger, the national government has made a contract for the construction of enormous works of canalization and irrigation, with the object of fertilizing great extensions of land that are now deprived of that benefit. It will not be surprising when the work now begun is finished, to see the district or valley embraced by both rivers transformed into one of the most productive agricultural sections of the country.

The climate is generally dry and healthy. The mean temperature is 57° F. All the region is adaptable for agriculture. Wheat, flax, barley and vegetables grow perfectly,

as well as alfalfa and other forage fit for live stock. All kinds of fruit are cultivated and vines of esteemed value are harvested.

There are fifty schools in that district where 3000 students receive instruction.

The oriental part of the territory of Neuquen is flat and very rich in pastures, while the occidental is crossed by the branches from the Cordillera, which leave between them beautiful and picturesque valleys irrigated by many rivers and brooks. Generally all the territory is fertile.

The climate is very healthful and adaptable for the development of animal and vegetable life. Nevertheless, it varies according to the districts: in the east and southwest it is cold and at the summit of the mountains there are perpetual snows.

The Nahuel-Huapí Lake, one of the largest of the Patagonian region is at a height of 2952 feet above the level of the Pacific Ocean. Its contour is very irregular, and in its steep borders there are deep gulfs similar to the Norwegian "fjords." The beautiful panorama that nature offers in the rugged regions that surround the lake, can only be compared with the picturesque Central Alps, the summit of Mount Tronador being 6600 feet in height, with deep valleys and forrests of pines, cypresses, araucarias and other trees which thrive similarly.

The bluish waters of the lake which are fresh and drinkable, agitate as those of a sea on account of the strong winds of the Cordillera. Its depth exceeds 200 fathoms, and is navigated by steamers that connect with the ports on its borders.

It contains thirty-five small islands; receives water from several tributaries from which the capacious Limay River, a branch of the River Negro, navigable in all its extension, has its origin.

Important hydraulic works will be made on this territory; among them the most remarkable one, which is almost finished, will be the dam in the Vidal basin, a natural depression of the land that makes an enormous receptacle of which the hydraulic capacity is enough to provide with artificial fertilization the territories of Neuquen and Rio

Negro; both will then be able to give their soils a permanent and sure agricultural exploitation without being exposed to the chances of good and bad harvest.

Actually in those Andean valleys, irrigated by capacious rivers whose currents will some day be used as an economic motive power, there are more than a quarter of a million acres of land, unsurpassable for the production of cereals, vines, and fruit trees; and there are already several agricultural colonies that obtain valuable crops of grain and grapes.

The live stock wealth is also plentiful in proportion to the inhabitants. The agricultural and mining products are exported through Bahia Blanca and a large quantity of the meat products are exported to Chile. The native flocks are being refined with thoroughbreds from the septentrional countries of Europe which are those best adapted to the climate and to the topography of the country.

The mining industry promises a great future and there are now three companies working its rich mines of gold. Copper, quartz and coal also exist. Oil beds have been discovered, which are easily accessible, but at this time no work has begun.

The soil of Chubut is fertile and adapted to the tillage of the temperate zone, as is proven by the prosperous Welsh colonies, established on the lower basin of the Chubut River which is formed by wash-out lands unsurpassable for the cultivation of cereals. It is true that there are besides these valleys, arid, rocky and dry districts, but there are also prairies with good pastures, and in the basins of the lakes and rivers there are great stretches of woodlands, with trees that supply excellent white wood, such as araucaria, oak and pine.

The expansion of agriculture to any great extent in the valleys of the Cordillera is not at present possible, notwithstanding the fertility of the soil, as the enormous distances to the ports of shipment together with the lack of means of transportation, make impossible their development. Future railroads that will connect these valleys with the Atlantic coast will establish an epoch of agricultural production of an incalculable value.

Santa Cruz is made up of a series of extensive sloping

plateaus that descend in succession, from the Cordillera towards the sea, whose sinuous shores are bordered by hills or sand banks of small height.

The Deseado River is dry toward the interior and is now only a deep entrance of the sea. The Santa Cruz River is navigable in its larger part, carrying to the Atlantic the waters of the great lakes Misterioso, Viedma, Argentino and others; all of these are joined by narrow but deep channels.

The general aspect of the region of the lake is similar to the one previously referred to when speaking of the Nahuel-Huapí Lake.

The climate is cold and healthy. The minimum temperature registered at Gallegos, which is the coldest point of the coast, is 10° F. below zero. Generally 4° below zero is reached during winter.

Santa Cruz has rich gold mines, rich placer mines, coal and salt mines; on its shores there are a large number of seals. The Andean region has an enormous forest wealth.

Even though the population is small, the commerce of the territory is enormous; there are at the capital (the town of Gallegos), very important exporting concerns and branches of three banks. There is a refrigerating plant that turns out about 200,000 muttons yearly.

In all this enormous extension of land, there are at present only 100,000 inhabitants, something like 30,000 in each of the northern territories and 10,000 in Santa Cruz; as a total there is one inhabitant every three square miles. In the states of Arizona, Wyoming and Nevada there were more than double this per square mile in 1890.

Those 100,000 inhabitants of Patagonia are of the white European race, with the exception of a very few Indians and half-breeds whose number does not reach 5000.

In 1866 a small Welsh colony was founded in the territory of Chubut, who emigrated from their country under conditions similar to those of the Pilgrims of Massachusetts. Before twenty years elapsed, the first Patagonian railway connected their prosperous colony at the valleys of the river with Port Madryn which offered a natural port for their products. Notwithstanding certain difficulties in assimila-

ting them to the life of the country, we can give assurance that the present generation of Argentines, sons of these Welshmen, love the land where they were born and the flag that protects them, and offer themselves with enthusiasm to the military service which is compulsory in our country.

This has been brought about in part by the frequent visits of ships of our navy which practice now and then on that coast, as well as by certain Italian immigration with which they have begun to mix.

Further south, near Lake Munster and Colhuapé, there are some Boer colonies to which the national government gave land and facilities. The rest of the population, in the ranches to the Straits, is of English and German origin; there are also Austrians, Swedes, Norwegians and Dutch, but in the commerce of the towns the Italians and especially the Argentines predominate.

In this region there are now 295,000 acres of land that have been cultivated, half of this being in the territory of Rio Negro. There is a total of 841,000 cows, 10,000,000 sheep, 500,000 horses and 300,000 goats. How many acres of cultivated land and how many of these animals could Patagonia have, whose climate is well superior to that of many countries, when it will be populated in the proportion of the poorest State of the United States, is hard to guess.

Of the quadrupeds of the Patagonian fauna the common ones are the guanaco, the hare and the fox. The number of guanacos increases towards the south and that of the hares diminishes until they almost disappear at the Strait.

It is impossible to calculate the number of guanacos scattered in that enormous territory; I have seen twenty years ago in valleys near Gallegos River multitudes of those animals which densely cover all the hills giving to them the red tint of their backs as far as the eye-glasses could reach. The impression was that there were right there, thousands of thousands. Since the establishment of ranches the owners do not pursue them any more in order to avoid the destruction of their wire fences; therefore, they have gone towards the Cordillera losing the advantage of spending the severe winters in the temperate valleys near the Ocean; owing to

this an important decrease has occurred. A very few Indians hunt them for their skins; of these they join together about twenty generally by the inferior part of the skin of the young ones, making thus a handsome rug that is very much appreciated.

At the south there is always found the "puma" or American lion, which causes great damage to live stock and is therefore pursued.

There are all kinds of birds belonging to the temperate and cold zones; there is an abundance of ducks, "abutardas" and swans; the Patagonian swan has a white body with a black neck and is smaller than the European and North American.

All over the coast there are sea gulls and a great variety and number of aquatic birds. The penguins build their nests in bushes near the sea shore; enormous flocks of these ridiculous birds may be seen standing on the beach showing the feathers of their white breasts which contrast strikingly with their dark bodies much as if they were a crowd in a stadium. Other times further than 300 miles from shore their dissonant screams from the water, when they appear between two plunges, are an omen of the next storm to the superstitious sailor.

Nature has not given Patagonia many natural ports. The first important port starting from the north is San Antonio, in the Gulf San Matías. Work has begun on this port and is being dredged to a depth of 35 feet; a wharf is also under construction.

Port Madryn at the furthest end of Gulf Nuevo is another port of importance. There are two wharfs for landing and an excellent anchoring-ground. Further south, the only port of importance are Deseado, Santa Cruz and Gallegos. There are many other small ports but none of them are very desirable. Luckily, as the prevailing winds all over the coast are from the northwest, west and southwest, the navigators can count upon calm sea in most of them for general operations; it is not strange to see steamers anchored near the shore in places where there are no bays nor indentations, shipping wool, hides and other products.

At the furthest end of Gulf San Jorge, where the landing of Comodoro Rivadavia is located, opened to the winds from the sea and where a small town has been built since this is the point of export for the products from the colonies of Lakes Munster and Colhuapé, there was discovered in 1907, while drilling for water, an important fountain of oil at a depth of 535 meters. Since then thirteen perforations have been made with satisfactory results; from the geological studies made along a large part of the coast it is believed that the petrolific beds extend to great distances north and south of Comodoro Rivadavia. The chemical analysis of this oil shows that it is an excellent combustible. The Public Works Department uses it already in the engines of the Patagonian railways, with unsurpassable results.

From this oil valuable derivatives can be obtained; some wells supply oil that contains 65 per cent of lubricating oil which indicates its excellent quality. Last year the production of this combustible reached 1000 tons a week. The government has retained all this section and another large area in which the rights of working the oil deposits will be offered in public auction.

The discovery of this fountain of incalculable wealth located at the sea side only two days by water from the port of Bahia Blanca and four from Buenos Aires, which is the second most important port of the whole American continent, adds an element very valuable for the future progress of the Argentine nation, already blessed by nature with the most precious gifts of a very fertile soil and unsurpassable climate.

The national government is actually constructing railroad lines following a very well studied plan already outlined and projected. At the present moment the following are being built: One that starts at port San Antonio towards the west to Lake Nahuel-Huapí. From there it turns towards the south through the valleys to Colony 16 de Octubre which is at the origin of the Chubut River; at points it connects with the one coming from Rio Deseado. Another line starts from Comodoro Rivadavia and goes to Lake Buenos Aires, and cuts the former more or less at the meeting of the Rivers

Senguel and Mayo. The total extension of these railroads now under construction, will be approximately 1000 miles.

The Andean Cordillera which from Chiloé towards the south seems to sink in the sea, yet keeping the same aspect, its imposing peaks covered with perpetual snow, and deep channels between the numerous islands, turns towards the east until it disappears at the last point of its tail at the Isla de los Estados or Staten Island at the east of Tierra del Fuego. This last name designates the archipelago at the south of the Strait of Magellan; it is composed of one large island divided by a meridian between Chile and Argentina and by numerous smaller islands at the west and south of it.

The name of Tierra del Fuego or Land of Fire did not originate from the existence of volcanos in activity. Perhaps the first Spanish navigators, who were very religious and did not forget any saint without a geographical accident, saw some fires that the Indians always make on the island; as the forest starts right there, there is no opportunity to see that signal before on the Patagonian coast.

The western and southern part of all those islands, battered by the cold winds from the Antarctic, is of pure rock but where it is protected by the mountains there are very dense forests of beech-trees, found in the lower lands and near the channels, some of them of a meter and one half in diameter. Higher up the trees decrease in height until they become a mass of tangled bushes at a level of two-thirds the height of the mountains, as if the permanent snows and the violent winds would not allow them to grow.

This forest vegetation which extends from the Patagonian lakes to Cape Froward, the southern extremity of the continental land, continues throughout all the southern half of Tierra del Fuego and the contiguous islands to the islands of the Estados.

The various panoramas that these channels offer, especially in summer, the numerous islands and small barren islets with their shores covered with woods which show in contrast all the shades of green, the rocks and peaks, some spotted here and there by the snows and others under the eternal ice of the high mountains that sometimes falls in glaciers to the

water side, are of an indescribable beauty, only comparable to that of the lakes of Switzerland.

Unhappily good weather does not prevail; continuous gales of sleet, hail and snow follow one another in rapid succession, specially in the western part of the archipelago. At the Beagle Channel, there are, nevertheless, some weeks of good weather with fair and sunny days.

At the eastern and northern part of Tierra del Fuego properly speaking, there are prairies and very fertile valleys, and its interior reminds us, owing to its permanent greenness, of the center of England.

Three kind of Indian races with different languages and characteristics lived in Tierra del Fuego: the Alacalufs and Yahgans who used to live principally on fish and navigated in canoes made from a single tree, and the Onas who lived in the northern part of the mountains and resemble the Patagonian Indian.

Of the canoe Indians it can be said that they have almost totally disappeared; alcohol, small-pox and other diseases obtained from their contact with the white race have almost extinguished them; they were short and of very small extremities. The Onas who lived in the woods and prairies of the north and east were of a higher type, tall, strong and of better proportions than the Patagonians; they always traveled on foot and with extraordinary speed; they did not know horses; when the first horses were taken for the demarcation of the boundary line between Chile and Argentina in 1891, it was the first time they had seen one, and thought that the man on horse-back and the horse constituted only one animal with two heads.

All those Indians were very poor; they used to hunt with their arrows guanacos and birds that are found in great numbers. When a whale went aground on the shores it was a cause for great joy and festivity; they devoured crazily whale meat and rubbed their bodies with the grease.

Another great festivity for them was a shipwreck, from which they not only provided themselves with provisions but with utensils that were needful. With steam navigation through the Strait and the greater knowledge of the coast,

shipwrecks decreased; in regard to this I recall an old Indian who told me: "Life is becoming too hard, there are no more wrecks."

It has never been proved that these Indians were cannibals; in the cases of the murder of white persons that we know, what they did was to burn their bodies in a bonfire.

There are no more than 600 Indians in all; the whole land is covered by ranches in prosperous condition, some of them connected with great plantations of the Chilean region which overlooks the Strait, having ports with facilities for shipping their products.

The Argentine part inhabited by only 3000 people has 12,000 cows, 1,700,000 sheep, and 11,000 horses.

The navigation of the Strait has been affected by the Trans-andean railroad from Buenos Aires to Valparaíso and will be affected much more by the Panama Canal. The Chilean population of Punta Arenas will remain a center of activity for all that region so important for its live stock, gold and coal mines.

The capital of the Argentine territory of Tierra del Fuego is at Ushuaia on the Beagle Channel, Here there is an important reformatory prison; the working of lumber, gold mines and other products keeps it in a state of prosperity. There are also branches of the national bank and of important commerce concerns. There is frequent communication with Punta Arenas and steamship lines connect it with Buenos Aires.

Staten Island is an ensemble of abrupt peaks of the most irregular and imposing forms. It is not populated; in a small island north of the former called Año Nuevo, where there is a lighthouse, the government keeps a magnetic observatory directed by officers of our navy, as well as a powerful wireless station.

Many of the sailing-ships that turn Cape Horn pass through the Strait of Lemaire when they have good wind with which they save many miles.

Calms combined with strong currents in the neighborhood of these coasts as well as dense fogs and errors in the ship's position, after long days at sea, are the cause of frequent

wrecks on the shores of both the island and the continental land.

The national telegraph goes through the coast to Cape Virgenes and towards the interior to the Colony 16 de Octubre. Besides this there are wireless stations in Punta Delgada, Virgenes, Año Nuevo and Ushuaia.

The ports of the Patagonian coasts are frequently visited by good steamers of a subsidiary line of the Hamburg-American Line, that maintains a service every fifteen days; there are two other lines of Argentine ships besides cargo-boats and sail boats specially freighted by the exporting companies.

With this showing of civilization and progress, Patagonia and Tierra del Fuego are no longer ignored and mysterious lands. The navigator nears the coast and sees light-houses and beacons. Houses in the lively towns show their whiteness and the smoke of the railroad engines and factories can also be perceived.

Patagonia of the legends, used to localize fantastic narrations or to give funny titles for nobles of operettas, is now a country in full progress; to give it a peculiar tone, it will only remain the penguin at the coast and the guanaco at the interior; and Argentines of the future generation will be able to increase with four or five the number of their provinces or states in a similar way as the United States has increased the number of stars on its beautiful flag.